

WHAT IS CLAIMED IS:

1. A double-acting, reciprocating piston, high pressure, cryogenic pump comprising;

a cylinder;

a piston rod;

a pair of spaced apart piston heads on said piston rod;

a venting passageway for venting blow-by vapors or fluids between the piston heads;

whereby blow-by vapors or fluids are reclaimed and do not interfere with normal operation of said cryogenic pump.

2. The pump according to Claim 1 in which each of said pair piston heads has a separate piston seal.

3. The pump according to Claim 2 in which each piston head has a set of seals.

4. The pump according to Claim 3 in which each set of seals is three piston seals.

5. The pump according to Claim 4 in which said venting passageway comprises venting passageways for venting blow-by vapors or fluid through the piston rod.

6. The pump according to Claim 5 in which said venting passageways comprise at least one passageway approximately perpendicular to the axis of said piston rod between said pair of piston heads; and a central passageway exiting through a port at an end of said piston rod.

7. The pump according to Claim 6 in which said at least one passageway perpendicular to the axis of said piston rod comprises at least two passageways communicating with said central passageway.

8. The pump according to Claim 7 in which said venting passageways vent blow-by vapors or fluids into a source of cryogenic fluid in a housing around said cryogenic pump cylinder.

9. The pump according to Claim 4 in which said venting passageway comprises at least one passageway in a cylinder housing of said double-acting, high pressure, cryogenic pump communicating with a manifold around said piston rod between said pair of spaced apart piston heads.

10. The pump according to Claim 9 in which said at least one passageway comprises at least two passageways on opposite sides of said cylinder housing.

11. The pump according to Claim 10 in which said pair of spaced apart piston heads are spaced apart a distance approximately equal to the length of stroke of said piston rod.

12. The pump according to Claim 11 in which said venting passageways vent blow-by vapors or fluids into a source of cryogenic fluid in a housing around said cryogenic pump cylinder.